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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,823	03/04/2004	Rintaro Minamitani	520.43596X00	3645

20457 7590 01/20/2006

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EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,823

Applicant(s)

MINAMITANI ET AL.

Examiner

Tho v. Duong

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt of applicant's amendment filed 11/10/2005 is acknowledged. Claims 1-8 are pending.

Response to Arguments

Applicant's arguments filed 11/10/2005 have been fully considered but they are not persuasive. Regarding rejection under 35 U.S.C 102, applicant's argument that the cooling system of Saitoh is configured as a large unit that is totally incapable for use of a cooling system for small electronic device, such a, a laptop computer, has been very carefully considered but is not deemed to be persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., small electronic devices, such as, a laptop computer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, in response to applicant's argument that the cooling system is intent to use in a small electronic device, such as laptop computer, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this instant case, the Saitoh's cooling system is capable of cooling any system. Applicant's rationale that the motor element in Saitoh's cooling system would prevent the cooling system from using in a small electronic device is not persuasive because most to all of electrical pumps that use to circulate fluid in a large or small cooling system, has a motor operatively connected to it.

Regarding to applicant's argument that the prior arts fail to disclose the functional limitation that the ion exchange bag enables ion exchange through diffusion on a surface thereof, the examiner does not find this argument persuasive. In the original disclosure, applicant discloses that an ion exchange resin is contained in a water-permeable bag and water permeates through the ion exchange bag to effectively deionize the water. Similarly, Saitoh discloses the same ion exchange bag as claimed and water also permeates through the ion exchange bag. Therefore, if such operation and structure of the ion exchange bag enables the claimed function. Saitoh's ion exchange bag inherently is capable of enabling the claimed function as well.

Regarding the rejection under 35 U.S.C 103, applicant's argument that the inclusion of Messina as a secondary reference does not remedy the deficiencies of Saitoh, has been very carefully considered but is not found to be persuasive because Messina is not used as a secondary reference to teach the use of an ion exchange bag. Reference to Saitoh is the secondary reference in the 103 Rejection that teaches the use of an ion exchange bag.

Applicant's further argument that it is improper and has no motivation to combine references to Saitoh and Messina since both references appear to be in different fields of endeavor from each other, has been very carefully considered but is not deemed to be persuasive. Messina discloses a liquid cooling system for cooling an electric component, while Saitoh also discloses liquid cooling system for cooling an electric component. Clearly, Saitoh and Messina are both from the same field of endeavor and/or analogous art. It would have been obvious to one of ordinary skill in the art, would seek the teaching of ion heat exchange bag in a water cooling system in another water cooling system. The motivation of employing the use of the ion exchange bag and its arrangement in the Messina's device is well stated in Saitoh (column 3,

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lines 35-50 and column 7, lines 33-44), which is for improving the efficiency of deionizing and the elimination pipes and joints associated therewith.

Claim Objections

Claim 1 is objected to because of the following informalities: regarding claim 1 “an electronic parts” appears to be a typographical error of “an electronic part”. Appropriate correction is required. Applicant has not made any change regarding this objection. Therefore, the objection is repeated.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed subject matter of “said ion exchange bag enables ion exchange through diffusion on a surface thereof” is not supported in the original disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Saitoh et al. (US 5,572,538). Saitoh discloses (figures 1-4 and column 7, lines 33-43) a liquid cooling system comprising a pump (78) for supplying a cooling liquid; a heat receiving jacket (14) being supplied with the cooling liquid for receiving heat from electronic parts; a radiator (76) being supplied with the cooling liquid passing through the heat receiving jacket; flow passages for circulating the cooling liquid in a route passing through the radiator back to the pump, wherein an ion exchange bag (72c), having a permeable bag (72c) enclosing an ion exchange resin therein, the bag is exchangeable held within a holder (72), which is in turn held within a container (38); the ion exchange bag (72c) is disposed downstream of the radiator (76) and also in part building up the liquid cooling system in an upstream of the heat receiving jacket (14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Messina (US 5,309,319) in view of Saitoh et al. (US 5,572,538). Messina discloses (figures 1-5 and column 5, lines 1-6) an electronic apparatus comprising a heat generation element (512) mounted on a substrate; a heat receiving jacket (130,510) being thermally connected to the heat generation element (512); a heat radiation jacket (chiller or condenser); a pump (50) for circulating the liquid to those jackets; a piping (30,60) for connecting the pump and the jackets, wherein an ion

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exchanger and filter is well known to be incorporated into the cooling system. Messina does not disclose an ion exchange bag held within a container located upstream of heat receiving jacket and downstream of the radiator. Saitoh discloses (figures 1-4 and column 7, lines 33-43) a liquid cooling system having an ion exchange bag (72c), having a permeable bag (72c) enclosing an ion exchange resin therein, the bag is exchangeable held within a holder (72), which is in turn held within a tank (38) and the ion exchange bag (72c) is disposed downstream of a radiator (76) and also in part building up the liquid cooling system in an upstream of the heat receiving jacket (14). Saitoh further discloses (column 7, lines 33-43) that such arrangement of the ion exchange bag in the cooling system is for the purpose of improving the efficiency of deionizing the liquid coolant. Since Messina and Saitoh are both from the same field of endeavor and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Saitoh's teaching in Messina's cooling system for the purpose of improving the efficiency of deionizing the liquid coolant.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on 571-272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TD

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January 12, 2006



Tho v Duong
Primary Examiner
Art Unit 3753